

Appln. No. 10/698,890
Amdt. dated October 5, 2004
Reply to the Office action dated April 12, 2004

REMARKS/ARGUMENTS

The replacement sheets submitted corrects the objections raised in PTO Form 948. In addition, the annotated sheets indicate the obvious corrections made to Figures 2C, 3C, 4C and 5C.

Claims 1, 2, 5, 6 and 8 remain in the application. Claims 3, 4, 7 and 9-11 have been cancelled without prejudice.

The rejection of claims 1, 2, 5 and 8 under 35 U.S.C. 103(a) as being unpatentable over Ifrim WO 01/22560A1 in view of Syverson U.S. 5,710,471 is traversed for the reasons to follow.

Ifrim discloses a rotor portion 50 for use in electric machines having a specific configuration. In particular, the rotor 50 comprises a plurality of poles 58 and permanent magnets 56 circumferentially arranged in an alternating configuration such that each permanent magnet 56 is positioned intermediate a pair of consecutive poles 58. The magnets 56 and poles 58 are assembled in a manner to allow a shaft to rotate the assembly. The base of the magnets 56 and the tip (apex) of the poles 58 form the rotor opening for receiving the shaft and does not disclose a separate non-magnetic hub insulating the rotor magnets/poles from a shaft.

Syverson et al discloses an alternator having a rotor embodiment shown in Figures 10 and 11. In this embodiment, permanent magnets 302 are embedded in a retainer 304 formed of a non-magnetic material which forms a hub around rotor shaft 22.

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Independent claim 1, as amended, sets forth that the pole and magnet configuration is positioned such that the base of the former and tip of the latter abut the non-magnetic hub 18 and, with respect to the permanent magnets, the bottom surfaces thereof being the only portion in contact with hub 18. This allows the entire rotor structure to be mounted to any shaft after the rotor is fabricated, including a magnetic shaft, since the hub acts as a buffer to separate the poles and magnets from the shaft, thus preventing the permanent magnets from being magnetically shorted. This feature, in combination with the specific arrangement of permanent magnets and poles, provides a rotor configuration which does not require a sleeve while providing superior magnetic field effects.

In Robotic Vision Systems Inc. v. View Engineering, Inc., 51USPQ2d 1948, 1954 (Fed. Cir. 1999), the Court reiterated the standard regarding obviousness rejections under 35 U.S.C. § 103. In particular, the Court noted that the combination of two or more references “must show some motivation or suggestion to combine the teachings”, also citing In re Rouffet, 47USPQ2d 1453 (Fed. Cir. 1998). It is clear that the Ifrim and Syverson et al references cited by the examiner do not motivate or suggest to someone skilled in the art that they can be combined to make applicant’s claimed invention obvious without the use of hindsight.

Dependent claims 2, 5, 6 and 8 should be allowable for the reasons advanced for the allowability of independent claim 1. In addition, dependent claim 2 sets forth a particular taper angle for the poles, dependent claim 5 recites a specific feature of the

rotor subassembly wherein the rotor poles extends along a portion of the assembly, dependent claim 6 sets forth that both end caps are shrink fitted onto the ends of the rotor subassembly, and dependent claim 8 sets forth that the clamping bolt members extend through the entire subassembly, all features not disclosed in Ifrim and Syverson.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'I. Keschner', with a long horizontal flourish extending to the right.

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October 5, 2004

Patents/McMullen.amd4

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Amendments to the Drawings

The attached sheets of drawings includes changes to Figs. 2C, 3C, 4C and 5C. The first sheet, which includes Figs. 2A-2C, replaced the original sheet including Figs. 2A-2C. In Figure 2C, sectional line designation A-A has been replaced with designation 2B-2B. The second sheet, which includes Figs. 3A-3C, replaces the original sheet including Figures 3A-3C. In Figure 3C, sectional line designation A-A has been replaced with designation 3B-3B. The third sheet, which includes Figs. 4A-4C, replaces the original sheet including Figures 4A-4C. In Figure 4C, sectional line designation A-A has been replaced with designation 4B-4B. The fourth sheet, which includes Figures 5A-5C, replaces the original sheet including Figures 5A-5C. In Figure 5C, sectional line designation A-A has been replaced with designation 5B-5B.

attachment: Replacement sheets (note that the originally submitted five sheets have been replaced to comply with the requirements of PTO Form 948).
Annotated Sheets Showing Changes